

**ENGINEERING DIRECTIVES AND STANDARDS**

Volume : I                      Revision Date : 04/20/1994  
 Chapter : 1                    Subject : **DEPARTMENTS SURFACE CHARACTERISTICS PROGRAM**  
 Section : 1  
 Directive : 5

1. **PURPOSE:** This program has been developed to comply with Federal requirements as set forth the National Highway Traffic Safety Administration and Federal Highway Administration, Department of Transportation, Uniform Guidelines for Highway Safety Programs, Number 12 (FAPG 23 CFR 1204).
2. **SCOPE:** This directive covers the Department's Surface Characteristics Program for all new construction as well as maintenance construction, and sets forth procedures for identifying slippery pavements and various alternatives to improve frictional properties.
3. **POLICY:** It will be the policy of the Department of Transportation and Development to make every effort to construct and maintain a level of frictional properties on the state-maintained system to adequately accommodate the frictional requirements demanded by the motoring public under normal operating conditions. This will be done to the extent possible within the funding limitations set forth by the Legislature.

The Department, due to limited funds and the availability of suitable materials, cannot attempt to maintain the level of frictional requirements demanded under unusual conditions-: such as, heavy rain, speeds in excess of the posted speed limit, emergency stops under panic situations, and other similar conditions.

To accomplish the objectives enumerated here, the following criteria are hereby adopted for selection of surface type for new construction, reconstruction or resurfacing. These requirements shall be used with the 1992 Edition of the STANDARD SPECIFICATIONS FOR ROADS AND BRIDGES.

#### A. Surface Type

##### (1) Asphaltic Concrete Surfaces

CURRENT TRAFFIC VOLUME <sup>1</sup> (ADT)	TYPE WEARING COURSE
7,000 +	Type 8F
2,500 to 6,999	Type 8
Less than 2,500	Type 3
General Aviation Airports	Type 7
<sup>1</sup> Total ADT	

The criteria given above will be used on all projects where practical. However, the Road Design Engineer may make recommendations to the DOTD Chief Engineer to deviate from these requirements when other project conditions, such as traffic demands or route continuity, would appear to justify an exception to this policy.

## **(2) Portland Cement Concrete Surface**

Portland Cement pavement and bridge deck surfaces will receive a tined surface in accordance with the Department's Specifications

## **(3) Asphaltic Surface Treatment**

The criteria given below will be used on projects as approved by the DOTD Chief Engineer.

TRAFFIC COUNT (ADT)	TYPE OF ASPHALTIC SURFACE TREATMENT
3,000-7,000	A
100 - 2,999	B
Less than 100	D
Shoulders (Interstate)	C
Other Uses	D

## **B. Cross Slope**

The following cross slopes will be used, except as noted.

### **(1) New Construction**

P.C. Concrete Pavement and Bridge Decks - 2.5% Asphaltic Concrete Pavement - 2.5%

### **(2) Construction Overlay**

Asphaltic Concrete Overlay - 2.5% 1.2

Considering individual conditions - such as functional classification, traffic volumes, roadway width, cost, etc. - lesser slopes (not less than 2.0%) may be used on recommendation of the District Administrator with approval of the DOTD Chief Engineer.

2 Multi-lane roadway overlays may be designated in such a manner that the cross slopes will be increased gradually from the high to the low side of the roadway for each lane in order to accommodate proper drainage.

The minimum slope used in this case will be 1.5%.

### **(3) Maintenance Purchase Order Overlay**

The cross slope for this type rehabilitation will be decided by the District Administrator.

### **C. Inventory of Pavement Frictional Properties**

The Department will make all reasonable efforts to test and report the NHS system roadways on a three-year basis. The Department will annually test and report all locations identified by an accident rate in excess of twice the normal accident rate attributable to wet weather roadway conditions for each roadway class. Copies of the reports for the NHS system and the wet weather accident locations will be sent to the Pavement Management Section, the Safety Management Section, the Planning Section and each District Administrator for their use and/or action.

The Department will test, evaluate and report new or innovative wearing courses; aggregates or surface finishes to determine the effectiveness of these new materials or finishes.

### **D. Maintenance Practices That Affect Frictional Properties**

The pouring of reflection cracks on asphaltic pavements will be prohibited, except under special circumstances where the DOTD Maintenance Engineering Administrator grants special authorization based on sound written reasons.

Sealing of portland cement concrete pavements using single or multiple application surface treatment is prohibited.

4. **OTHER ISSUANCES AFFECTED:** The existing "Skid Accident Reduction Program", EDSM 1.1.1.5, dated June 1, 1987, is hereby rescinded.
5. **EFFECTIVE DATE:** All phases of this policy will be effective on all projects for which bids are received using the 1992 edition of the STANDARD SPECIFICATIONS FOR ROADS AND BRIDGES and the August 31, 1994 Letting, unless otherwise authorized by the DOTD Chief Engineer.